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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,881	07/22/2005	Gerald Faulhaber	8009-84240	5245
42798	7590	03/27/2006		
FITCH, EVEN, TABIN & FLANNERY P. O. BOX 65973 WASHINGTON, DC 20035				
			EXAMINER CAVALLARI, DANIEL J	
			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/522,881	Applicant(s) FAULHABER ET AL.	
	Examiner Daniel J. Cavallari	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/2/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 2/2/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- The reference "St4" in Figure 1, is not in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are further objected to under 37 CFR 1.83(a) because they fail to show the circuitry as described in the specification.

- The drawings should contain the appropriate descriptive labels provided in the specification as the boxes used to represent the various components are not representative of the component, making the figure confusing. It is also unclear how the relay unit provides power to the safety system (5) seeing as no power supply or power line to the safety system (5) or relay unit (4) has been identified.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

Art Unit: 2836

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to for the following reasons:

- The specification fails to identify reference "St4" of Figure 1.

Appropriate action is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

In regard to Claims 1 & 4

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131

USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1 & 4 recite the broad recitation "A device for redundant voltage supply of safety-relevant systems...", and the claim also recites "...in particular in motor vehicles" which is the narrower statement of the range/limitation.

In regard to Claim 2

Claim 2 recites the limitation "another unit" however a first "unit" is not previously disclosed. The examiner notes that the applicant has previously recited a "relay unit" but there is not sufficient antecedent basis for a "unit". There is insufficient antecedent basis for this limitation in the claim.

Claim 2 is further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is meant by the limitation of "... The device as claimed in claim 1, characterized in that another unit for switching over voltages can also be used in place of the relay unit having relays." It is unclear what "another unit" is referring to an additional unit to the one already claimed or some other embodiment of the relay unit.

Because of the 112 problems with this claim, no art can be applied.

In regard to Claim 4

Claim 4 recites the limitation "return to the start" however a "start" condition or location has not been previously disclosed. There is insufficient antecedent basis for this limitation in the claim. It is unclear to the examiner what "the start" is being referenced as for a "start" condition has not been previously disclosed.

Because of the 112 problems with this claim, no art can be applied.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giers (US 6,410,993) & Lo (US 6,501,196).

In regard to Claim 1

- A first drive device (1) and a second drive device (2) (See Figure & Column 3, Lines 35-46)
- Each of the drive device designed to drive actuators (5, 6) connected to voltage supplies (7, 8) (See Figure & Column 4, Lines 11-27) for a safety relevant system (i.e. braking systems, traction slip control, driving stability (See Column 1, Lines 11-23)).

Art Unit: 2836

- The drive device (1 & 2) being connected to a communication channel (See Column 4, Lines 11-26).

Giers fails to teach:

1. A third drive device.
2. The drive devices being designed to drive relays in a relay unit.
3. The first and second drive device having a device for monitoring a voltage.
4. The first drive device sending a request if no voltage is sensed, the second drive device checking whether the first drive device has switched and detecting no voltage is applied, and the third drive device detecting a request message from the first and second devices has been received.

Lo teaches:

1. Three control circuits (100A-100C) (See Figure 3) comprising a drive device, read on by controller 108 and sensor (106) (See Figure 1), each capable of controlling power to a load (92) creating a triple redundant system (See Column 5, Lines 45-50).
2. Drive devices (106, 108) designed to control relays (102) (See Figure 1 & Column 3, Lines 26-39).

Art Unit: 2836

3. First and second drive devices having a device (106) for monitoring the voltage at the load (92) (See Column 5, Lines 45-59) wherein the circuits (100A-100C) are shown in detail in Figure 1 as (100).

4. The first drive device (master controller) triggering a switching process of the relay unit (main switch) and outputting a request message (Anf1), read on by "Relinquish master status" (See Step 222 of Figure 2) to a communication channel if no voltage is applied to the load, read on by step (218) (See Figure 2 & Column 5, Lines 14-32).

A second drive device having a device for checking whether the first drive device has driven and switched the relay, read on by the controller (108) which receives a "Relinquish Master Status" from a first controller (See Column 5, Lines 22-32) if determined that the first drive device has not driven or has switched the relay unit (i.e. opened the relay because of a loss of power at the supply) read on by the condition wherein the first controller fails the "Source Status" test of step (204) of Figure 2, said second drive device can trigger a switching process of the relay and if it is not possible to trigger a switching process of the relay unit, the controller can output a further request message (Anf2) read on by the second "Relinquish Master Status" from the second controller (See Column 5, lines 14-32).

A third drive device which can receive the request messages (Anf1, Anf2) read on by the "Relinquish Master Status" from controllers 1 & 2 and can trigger a switching process of the relay unit when both request messages are received, as is the case after

Art Unit: 2836

two sources have failed and the third source takes over as the master (See Column 5, lines 14-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the triple redundant power design taught by Lo into the design of Giers in which three controllers were used to control the actuators (5) and wherein the triple redundant power scheme taught by Lo was incorporated into the motor vehicle control system taught by Giers in order to further supply triple redundant power to the safety critical control systems of the vehicle as well as redundant data.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giers (US 6,410,993), Lo (US 6,501,196) & Jensen (US 6,527,348).

Incorporating all arguments above of the vehicle device taught by Giers, Giers teaches a communication line but fails to explicitly teach the use of a CAN bus.

Jensen teaches a redundant braking system for a motor vehicle incorporating multiple processors (100 & 90) which are connected via a CAN bus (141, 142) (See Figure 2, & Column 4, Lines 33-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the CAN bus in the redundant vehicle control system taught by Jensen into the system of Giers. The motivation would have been to provide

Art Unit: 2836

a well known communication bus system in which to connect the various components of the system of Giers.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Nitschke et al. US (6,566,765)
- Vincent et al. (US 6,943,540)
- Liu et al. (US 6,608,403)
- Emberty et al. (US 6,600,238)
- Ellermeyer (US 3,555,290)
- Fuehrer (US 2003/0184158)
- Heckmann et al. (US 2004/0011579)
- Giers (US 6,201,997)
- Sugimoto et al. (US 6,243,629)
- Janses et al. (US 6,061,601)
- Mueller (US 5,483,230)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.


Art Unit: 2836

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

March 17, 2006



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2836